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ABSTRACT

Evaluated in four studies comparing the learning of synonyms by learning disabled (LD) or normal children were the effects of four treatments: varying amounts of material to be learned, varying amounts of practice, varying stimulus familiarization, and varying association value. Results were inconclusive regarding optimal amount of material to be learned at one time. LD students required three times as many practice trials as normal Ss, thus stressing the importance of drill for LD Ss. Increasing the stimulus familiarization did not significantly improve the LD Ss' learning of synonyms. Finally, both normal and LD Ss learned more rapidly the high association synonyms, though this treatment was more effective for normal Ss than for LD Ss. (DB)

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Prototypes for Teaching Word Meaning Skills--Synonyms--to Learning Disabled Children[1]

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Prototypes for Teaching Word Meaning Skills--Synonyms--to Learning Disabled Children

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Synonyms are one of two or more words or expressions that have the same or nearly the same meaning. Pairing a new, unknown word with a known word is required in learning synonyms. Braun and Heymann (1958), Cohen and Musgrave (1964), Underwood and Schultz (1960), Robinson and Darrow (1924), among others, have described the nature and conditions of learning synonyms.

We studied four variables generally agreed to be important in learning synonyms with learning disabled (LD) and normal pupils. LD and normal pupils' synonym learning was examined as they were exposed to different amounts of material, practice, stimulus familiarization, and degree of association. The following is a summary of four studies to determine the effects of these variables relating to the learning of synonyms by LD and normal students. Data were sought relative to the following questions:

1. Does the amount of material influence LD and normal pupils' learning of synonyms?
2. Does the amount of practice influence LD and normal pupils' learning of synonyms?
3. Does the amount of stimulus familiarization training influence LD and normal pupils' learning of synonyms?
4. Does the degree of association value influence LD and normal pupils' learning of synonyms?

The sample was described by Dr. Jones. For these studies, pupils in Cells S1T1 and S1T2 participated. Dr. Allen has described the research design, data collection procedures, and statistical analyses used in all studies in this research program. A list of the variables and a summary of the results is presented in Table 1.

Learning Disabled and Normal Pupils' Responses to the Treatments

Amount of Material

We studied the effect of amount of material on the groups' synonym learning. There were two treatments. One treatment received a list of three synonym pairs; Treatment 2 received a list of nine synonym pairs.

The normal Ss performance was significantly superior to the LD's performance. Treatment 1 was significantly easier than Treatment 2. No significant progress was seen across trials, which seems to have been a function of the task. Treatment 1 was too easy, and resulted in a task-ceiling effect; Treatment 2 was too difficult, resulting in a learner-ceiling effect. Not any of the interactions were significant.

We are replicating this study presently using other amounts of material seeking to find an optimum number of units.

Amount of Practice

Another study investigated the effects of various amounts of practice on synonyms learning. There were 3 treatments or amounts of practice in this study.

All subjects received 12 trials while learning 9 synonym pairs. The response measures were scores at the end of 4 trials (Treatment 1), 8 trials (Treatment 2), and 12 trials (Treatment 3).

The results of the analysis of variance showed significant differences in the performance of the groups and significant differences in the various amounts of practice.

The performance of the normal subjects significantly surpassed the performance of the LD subjects under all three treatments. For the combined groups, performance after 4 trials was inferior to performance after 8 and 12 trials was equivalent.

The significant Groups X Treatments interaction is important: the varying amounts of practice were not similarly effective for both groups. The normal Ss improved in performance between Trials 4 and 8 and between 8 and 12. The LD group decreased in performance between Trials 4 and 8 and increased in performance between 8 and 12. The LD Ss, after receiving the most practice (12 trials), were similar to the normal Ss after they received the least amount of practice.

These results suggest that different kinds of teaching techniques may be needed with LD subjects. Although these results suggest the importance of drill and practice, the question of optimum length of task is unresolved.

Stimulus Familiarization

In studying the effects of stimulus familiarization on learning synonyms, the treatments were variants of stimulus familiarization. Treatment 1 received 3 practice presentations of stimulus items preceding the second study list. Treatment 2 received 1 practice presentation of stimulus items preceding the second study list. The response measure was the number of correct responses on each of the four test lists.

Results of the ANOVA showed no significant difference in treatment's main effect. Both groups made significant progress over trials, with the normals performing higher than LDs. The significant Groups X Trials interaction suggests a slightly faster rate of learning by the normals.

Association Value

Association value is related to meaningfulness which is important in paired associates learning. Both treatments received 9 synonym pairs. For Treatment 1 the response numbers were one syllable, high association CVC trigrams. The response members for Treatment 2 were nonsense words of low association value. The stimulus members for both treatments were

identical: high frequency, one syllable English words.

There was a significant Groups X Treatments interaction. While both groups progressed more under Treatment 1, the treatment was more effective for normal Ss. Both groups showed significant improvement across trials. The other interactions were not significant. High association synonyms are more easily learned by both groups. However, LD groups do not progress as rapidly.

Synthesis

Amount of Material

Amount of material refers to task size and length and has been shown influential in learning. In synonyms learning we have as yet no clear cut answer as to the optimal amount of units to be learned at one time. We are concentrating other efforts now to identify the optimal number for LD children.

Amount of Practice

Amount of practice refers to the number of reinforced presentations of the material. Our study showed a significant Groups X Treatment interaction and indicates that LD pupils, after receiving 12 trials in learning synonyms, were similar to normals after receiving only 4 trials, thus stressing the importance of drill and practice for LD subjects; however, we will know more about this interaction after further study of length of task (amount of material).

Stimulus Familiarization

Familiarization with the stimuli or responses is one way to influence meaningfulness, which is important in synonyms learning. Our work showed that increasing the number of stimulus presentations unimpaired with the response did not significantly improve LD's learning of synonmys. However, this finding conflicts with results of our studies with retarded pupils in

which stimulus familiarization was found to be effective. Thus, more work needs to be done with this variable as a teaching technique.

Association Value

Association value is another aspect of meaningfulness which is important in synonyms learning. As a student learn synonyms he uses two processes: the response learning stage and the associative hook-up stage. Previous research has indicated that high association value is beneficial. Our findings agree. Both groups progressed more under high association synonyms. However, the treatment was more effective for normal subjects. High association words should be used with LD children, realizing they will not progress as quickly as normal children.

TABLE 1

SUMMARY OF ANOVA RESULTS OF PROTOTYPE EVALUATION STUDIES FOR TEACHING WORD MEANINGS--SYNONYMS--TO LEARNING DISABLED CHILDREN

Investigator	Variable	G	Tr	GxTr	Tl	GxTl	GxTr	GxTrxTl
Allen	Amount of Material	S	S	NS	NS	NS	NS	NS
Dekle	Amoung of Practice	S	S	S	--	--	--	--
Campbell	Stimulus Familiarization	S	NS	NS	S	S	NS	NS
Allen	Association Value	S	S	S	S	NS	NS	NS